L Number	Hits	Search Text	DB	Time stamp
1	2711	interphase	USPAT; US-PGPUB	2002/08/09 06:26
2	16904	chromosome	USPAT; US-PGPUB	2002/08/09 06:26
4	1100839	damag$8 or break$8 or fragment$8	USPAT; US-PGPUB	2002/08/09 06:27
5	584840	mitogen or bleomycin or mms or methanesulfonate or arac	USPAT; US-PGPUB	2002/08/09 06:29
6	452	interphase and chromosome and (damag$8 or break$8 or fragment$8) and (mitogen or bleomycin or mms or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:29
7	4	interphase same chromosome same (damag$8 or break$8 or fragment$8) same (mitogen or bleomycin or mms or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:29
8	22750	mitogen or bleomycin or methanesulfonate or arac	USPAT; US-PGPUB	2002/08/09 06:29
9	87	interphase and chromosome and (damag$8 or break$8 or fragment$8) and (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:30
10	49	interphase and (chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:30
11	26	(chromosome same (damag$8 or break$8 or fragment$8)) same (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:34
12	684	(chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac) and (alzheimer$3 or cancer$9)	USPAT; US-PGPUB	2002/08/09 06:35
13	5759	chromosome same (damag$8 or break$8 or fragment$8)	USPAT; US-PGPUB	2002/08/09 06:35
14	841	(chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 06:35
15	684	((chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)) and (alzheimer$ or cancer$)	USPAT; US-PGPUB	2002/08/09 06:35
16	255	((chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)) and (alzheimer$)	USPAT; US-PGPUB	2002/08/09 06:35
17	180	(((chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)) and (alzheimer$)) and metaphas$	USPAT; US-PGPUB	2002/08/09 06:36
19	317	(((chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)) and (alzheimer$ or cancer$)) and (dNTP or datp or dttp or dctp or dgtp)	USPAT; US-PGPUB	2002/08/09 06:59
21	20	(((chromosome same (damag$8 or break$8 or fragment$8)) and (mitogen or bleomycin or methanesulfonate or arac)) and (alzheimer$ or cancer$)) and deoxynucleotidyl	USPAT; US-PGPUB	2002/08/09 07:15
22	1453	deoxynucleotidyl or apotag or tunel	USPAT; US-PGPUB	2002/08/09 07:15
23	1	(deoxynucleotidyl or apotag or tunel) same (damag$8 or break$8 or fragment$8) same chromosome	USPAT; US-PGPUB	2002/08/09 07:16
24	144	(deoxynucleotidyl or apotag or tunel) and ((damag$8 or break$8 or fragment$8) same chromosome) and (mitogen or bleomycin or mms or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 07:17
25	57	(deoxynucleotidyl or apotag or tunel) and ((damag$8 or break$8 or fragment$8) near5 chromosome) and (mitogen or bleomycin or mms or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 07:18

26	9	(deoxynucleotidyl or apotag or tunel) and ((damag$8 or break$8 or fragment$8) near5 chromosome) and (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 07:20
27	32932	(chromosome or DNA) near8 ((damag$8 or break$8 or fragment$8) or cut)	USPAT; US-PGPUB	2002/08/09 07:21
28	397	((chromosome or DNA) near8 ((damag$8 or break$8 or fragment$8) or cut)) same (deoxynucleotidyl or apotag or tunel)	USPAT; US-PGPUB	2002/08/09 07:21
29	86	(((chromosome or DNA) near8 ((damag$8 or break$8 or fragment$8) or cut)) same (deoxynucleotidyl or apotag or tunel)) and (mitogen or bleomycin or methanesulfonate or arac)	USPAT; US-PGPUB	2002/08/09 07:21
30	18	(((chromosome or DNA) near8 ((damag$8 or break$8 or fragment$8) or cut)) same (deoxynucleotidyl or apotag or tunel)) and interphase	USPAT; US-PGPUB	2002/08/09 07:21

(FILE 'HOME' ENTERED AT 11:31:03 ON 09 AUG 2002)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE, SCISEARCH' ENTERED AT 11:31:14 ON 09 AUG 2002

L1 31964 S TUNEL OR APOTAG OR TERMINAL (4A) TRANSFERASE OR DEOXYNUCLEOTI
L2 60438 S INTERPHASE
L3 134 S L2 AND L1
L4 94 DUP REM L3 (40 DUPLICATES REMOVED)
L5 57 S L1 (P) L2
L6 18 DUP REM L5 (39 DUPLICATES REMOVED)
L7 36847 S L1 OR TDT
L8 57 S L7 (P) L2
L9 18 DUP REM L6 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 11:37:51 ON 09 AUG 2002

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L9 ANSWER 15 OF 18 MEDLINE
ACCESSION NUMBER: 93011695 MEDLINE
DOCUMENT NUMBER: 93011695 PubMed ID: 1397093
TITLE: Intracellular localization of terminal transferase during the cell cycle.
AUTHOR: Di Primio R; Trubiani O; Bollum F J
CORPORATE SOURCE: Istituto di Morfologia Umana Normale, Facolta di Medicina, Universita di Chieti, Italy.
CONTRACT NUMBER: CA-23262 (NCI)
SOURCE: EXPERIMENTAL CELL RESEARCH, (1992 Oct) 202 (2) 405-11. Journal code: 0373226. ISSN: 0014-4827.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199210
ENTRY DATE: Entered STN: 19930122
Last Updated on STN: 19930122
Entered Medline: 19921030

AB Changes in the localization of **terminal transferase** during the cell cycle in random cultures of human pre-T leukemia line RPMI-8402 were examined by light and electron microscopy on immunoperoxidase-stained preparations. Paraformaldehyde-fixed and saponin-permeabilized human cells were used with a monoclonal anti-human **terminal deoxynucleotidyl transferase** (TdT) primary reagent to demonstrate changes in enzyme distribution occurring between **interphase** and mitosis. Nuclear localization is found uniformly during **interphase**. At metaphase, however, the majority of TdT staining appears randomly distributed in the cytoplasm and traces of TdT staining remain associated with mitotic chromatin. At later phases, when the daughter cells are forming, the enzyme again appears to be restricted to the new nuclear structure.

L9 ANSWER 10 OF 18 MEDLINE
ACCESSION NUMBER: 96428453 MEDLINE
DOCUMENT NUMBER: 96428453 PubMed ID: 8831556
TITLE: DNA segments sensitive to single-strand-specific nucleases are present in chromatin of mitotic cells.
AUTHOR: Juan G; Pan W; Darzynkiewicz Z
CORPORATE SOURCE: Cancer Research Institute, New York Medical College, Valhalla 10595, USA.
CONTRACT NUMBER: RO 28704
SOURCE: EXPERIMENTAL CELL RESEARCH, (1996 Sep 15) 227 (2) 197-202. Journal code: 0373226. ISSN: 0014-4827.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199611
ENTRY DATE: Entered STN: 19961219
Last Updated on STN: 19961219
Entered Medline: 19961105

AB It was observed before that DNA in situ in chromatin of mitotic cells is more sensitive to denaturation than DNA in chromatin of **interphase** cells. DNA sensitivity to denaturation, in these studies, was analyzed by exposing cells to heat or acid and using acridine orange (AO), the metachromatic fluorochrome which can differentially stain double-stranded (ds) vs single-stranded (ss) nucleic acids, as a marker of the degree of

DNA denaturation. However, without prior cell treatment with heat or acid no presence of single-stranded DNA in either mitotic or **interphase** cells was detected by this assay. In the present experiments we demonstrate that DNA in situ in mitotic cells, without any prior treatment that can induce DNA denaturation, is sensitive to ss-specific S1 and mung bean nucleases. Incubation of permeabilized human T cell leukemic MOLT-4, promyelocytic HL-60, histiomonocytic lymphoma U937 cells, or normal PHA-stimulated lymphocytes with S1 or mung bean nucleases generated extensive DNA breakage in mitotic cells. DNA strand breaks were detected using fluorochrome-labeled triphosphonucleotides in the reaction catalyzed by exogenous **terminal deoxynucleotidyl transferase**. Under identical conditions of the cells' exposure to ss-specific nucleases, DNA breakage in **interphase** cells was of an order of magnitude less extensive compared to mitotic cells. The data indicate that segments of DNA in mitotic chromosomes, in contrast to **interphase** cells, may be in a conformation which is sensitive to ss nucleases. This may be a reflection of the differences in the torsional stress of DNA loops between **interphase** and mitotic chromatin. Namely, greater stress in mitotic loops may lead to formation of the hairpin-loop structures by inverted repeats; such structures are sensitive to ss nucleases. The present method of detection of such segments appears to be more sensitive than the use of AO. The identification of mitotic cells based on sensitivity of their DNA to ss nucleases provides an additional method for their quantification by flow cytometry.

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